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EXAMINER	
NGUYEN, MINH CHAU	
ART UNIT	**PAPER NUMBER**
2145	

DATE MAILED: 01/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/991,339	ROLIA, JEROME	
	Examiner	Art Unit	
	MINH-CHAU N. NGUYEN	2145	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 November 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *13 Nov. 2001*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

MN

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Friedrich et al. (Friedrich), (6,003,079) and Zinky et al. (Zinky), (US 6,691,148 B1).

2. Regarding claim 1, Friedrich teaches a method of resource allocation comprising:

a) calculating a plurality of demand values a plurality of components (Col. 4, L. 35-41; and Col. 6, L. 21-26);

b) predicting a plurality of response time metrics said plurality of components based on said plurality of demand values (Col. 9, L. 5-10);

c) modeling said plurality of components based on an objective function in response to said plurality of response time metrics to determine a new effective distribution of computational resources throughout said plurality of components (Col. 11, L. 4-31); and

d) Friedrich fails to teach allocating computational resources throughout said plurality of components to reflect said new effective distribution. However, Friedrich teaches if a report from the managed method is processing too many arrivals, the quality-of-service ("QoS") expectations are changed (Col. 10, L. 55-58); such

suggestion would motivate one ordinary skilled in the art to seek a practical and effective way of doing so. Zinky teaches allocation of system resources to changing resource availability whenever the system detects a transition. It can be interpreted as allocating resources to reflect a new effective distribution (see Zinky, Col. 6, L. 26-35).

Thus, it would have been obvious to one of ordinary skill in the art the time the invention was made to incorporated allocating resources to detect a transition, as suggested by Zinky, in a system and method for continuously measuring quality of service in a federated application environment of Friedrich, in order to assure QoS provided by a distributed network having at least one object.

3. Regarding claim 2, Friedrich-Zinky discloses the invention substantially as claimed. Friedrich teaches the method as described in Claim 1, wherein said comprise an application plurality of components environment (Col. 1, L. 36-41).

4. Regarding claim 3, Friedrich-Zinky discloses the invention substantially as claimed. Friedrich teaches the method as described in Claim 1, wherein further comprises:

comparing a response time metric in said plurality of response time metrics to a service level objective (Col. 10, L. 53-67 and Col. 11, L. 1-31) ; and

modeling said plurality of components when said service level objective is not satisfied (Col. 10, L. 53-67 and Col. 11, L. 1-31).

5. Regarding claim 4, Friedrich-Zinky discloses the invention substantially as claimed. Friedrich teaches the method as described in Claim 3, wherein said service level objective applies to said plurality of components on a system-wide basis (Friedrich teaches QoS levels associates with NetworkResponse and TransportResponse which are a software components on a system-wide basis) (Col. 9, L. 31-39, L. 51-57; and Col. 11, L. 10-31, L65 – Col. 12, L. 7).

6. Regarding claim 5, Friedrich-Zinky discloses the invention substantially as claimed. Friedrich teaches the method as described in Claim 3, wherein said service level objective applies to said plurality of components on a subsystem basis (Friedrich teaches QoS levels associates with LocalResponse and QueueDelay which are a software components on a subsystem basis) (Col. 9, L. 40-50; and Col. 11, L. 10-31, L. 42-55).

7. Regarding claim 6, Friedrich-Zinky discloses the invention substantially as claimed. Friedrich teaches the method as described in Claim 3, wherein said service level objective applies to one of said plurality of components (Friedrich teaches QoS levels associates with LocalResponse which is a software components) (Col. 11, L. 10-31).

8. Regarding claim 7, Friedrich-Zinky discloses the invention substantially as claimed. Friedrich teaches the method as described in Claim 1, wherein a) further comprises:

receiving a plurality of metric values from said plurality of components, said plurality of metric values used to calculate said demand values (Col. 8, L. 18-67; and Col. 9, L. 12-20; and Col. 6, L. 12-26).

9. Regarding claim 8, Friedrich-Zinky discloses the invention substantially as claimed. Friedrich teaches the method as described in Claim 7, wherein said plurality of metric values includes throughput metrics and utilization metrics (Col. 8, L. 18-27 and 55-62).

10. Regarding claim 9, Friedrich-Zinky discloses the invention substantially as claimed. Friedrich teaches the method as described in Claim 1, wherein c) comprises:

inputting said plurality of demand values into a predictive model to determine said new effective distribution of computational resources (Col. 11, L. 4-31).

11. Regarding claim 10, Friedrich-Zinky discloses the invention substantially as claimed. Zinky teaches the method as described in Claim 1, wherein d) comprises: modifying computational resources from said plurality of components. Zinky fails to teach removing as a form of modifying. Changing resource availability can be interpreted as removing resources when the value falls below the "Normal" level or

QoS. In addition, a request will be sent to a client application component from a QuO contract (Col. 6, L. 26-35).

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to remove resources availability, as suggested by Zinky, in a system and method for continuously measuring quality of service in a federated application environment of Friedrich, in order to give the client application an opportunity to change its operating behavior in accordance with the improved QoS.

12. Regarding claim 11, Friedrich-Zinky discloses the invention substantially as claimed. Zinky teaches the method as described in Claim 1, wherein d) comprises: modifying computational resources to said plurality of components. Zinky fails to teach adding as a form of modifying. Changing resource availability can be interpreted as adding resources when the value exceeds the "Normal" level or QoS. In addition, a request will be sent to a client application component from a QuO contract (Col. 6, L. 26-35).

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to remove resources availability, as suggested by Zinky, in a system and method for continuously measuring quality of service in a federated application environment of Friedrich, in order to give the client application an opportunity to observer the high QoS and modify its behavior accordingly.

13. Regarding claim 12, Friedrich-Zinky discloses the invention substantially as claimed. Friedrich teaches A method of resource allocation in an application environment comprising:

a) receiving a plurality of metric values from a plurality of components of said application environment (Col. 8, L. 18-67; and Col. 9, L. 12-20; and Col. 1, L. 36-41);

b) calculating a plurality of demand values from said plurality of metric values (Col. 8, L. 18-67; and Col. 9, L. 12-20; and Col. 6, L. 12-26);

c) predicting a plurality of response time metrics for each of said plurality of components based on said plurality of demand values (Col. 9, L. 5-10);

d) modeling said plurality of components based on an objective function in response to said plurality of response time metrics to determine a new effective distribution of computational resources for said plurality of components (Col. 11, L. 4-31); and

e) Friedrich fails to teach allocating computational resources throughout said plurality of components. However, Friedrich teaches if a report from the managed method is processing too many arrivals, the quality-of-service ("QoS") expectations are changed (Col. 10, L. 55-58); and an optimization techniques minimize the required processing and network utilization overhead and improve overall scalability to reflect optimum number (Col. 5, L. 31-36); such suggestion would motivate one ordinary skilled in the art to seek a practical and effective way of doing so. Zinky teaches allocation of system resources to changing resource availability whenever the system detects a transition (see Zinky, Col. 6, L. 26-35).

Thus, it would have been obvious to one of ordinary skill in the art the time the invention was made to incorporated allocating resources to detect a transition, as suggested by Zinky, in a system and method for continuously measuring quality of service in a federated application environment of Friedrich, in order to determine optimum number of computational resources and assure QoS provided by a distributed network having at least one object.

14. Regarding claim 13, Friedrich-Zinky discloses the invention substantially as claimed. Friedrich teaches the method of resource allocation as described in Claim 12, wherein d) comprises:

modeling said plurality of components in response to said plurality of response time metrics when a service level objective is not satisfied (Col. 10, L. 53-67 and Col. 11, L. 1-31).

15. Regarding claim 14, Friedrich-Zinky discloses the invention substantially as claimed. Friedrich teach the method of resource allocation as described in Claim 12, wherein d) further comprises:

determining a plurality of optimum numbers of computational resources, one for each of said plurality of components, that represents said new effective distribution of computational resources. (Friedrich teaches an optimization techniques minimize the required processing and network utilization overhead and improve overall scalability to reflect an optimum number. Moreover, Friedrich also teaches if a report from the

managed method is processing too many arrivals, the quality-of-service ("QoS") expectations are changed. It can be interpreted as a new effective distribution when QoS expectations are changed for improvement) (Col. 4, L. 48-53; and Col. 5, L. 31-36; Col. 10, L. 55-58).

16. Claims 15, 16 have similar limitations as claims 10, 11, respectively, therefore are rejected under the same rationale.

17. Regarding claim 17, Friedrich-Zinky discloses the invention substantially as claimed. Friedrich teaches the method as described in Claim 12, wherein c) comprises:

predicting said plurality of response time metrics using a prediction modeling technique (Friedrich teaches a statistical techniques can be used to estimate average resource demand. These techniques can be interpreted as prediction techniques) (Col. 9, L. 5-10).

18. Claim 18 has similar limitations as claim 8, respectively, therefore is rejected under the same rationale.

19. Regarding claim 19, Friedrich-Zinky discloses the invention substantially as claimed. Friedrich teaches the method as described in Claim 12, wherein c) comprises:

inputting said plurality of demand values into a predictive model to determine said optimum number (Col. 11, L. 4-31; and Col. 5, L. 31-36).

20. Claims 20-30 list all the same elements of claims 1-11, but in system form rather than method form. Therefore, the supporting rationale of the rejection to claims 1-11 applies equally as well to claims 20-30.

21. Regarding claim 31, Friedrich-Zinky discloses the invention substantially as claimed. Friedrich-Zinky discloses the invention substantially as claimed. Friedrich teaches a communication network comprising:

a plurality of computational resources (Col. 1, L. 21-25);

an application environment having a plurality of network nodes coupled together (Col. 1, L. 21-25);

a plurality of components in said application environment servicing an application, each of said plurality of components including at least one computational resource from said plurality of computational resources, each of said plurality of components residing on one of said plurality of network nodes (Col. 4, L. 15-27);

a plurality of metrics measured at each of said plurality of components for calculating a plurality of demand values (Col. 8, L. 18-67; and Col. 9, L. 12-20; and Col. 6, L. 12-26);

a functional objective for defining an optimum number of computational resources in said application environment (Friedrich teaches an optimization techniques minimize the required processing and network utilization overhead and improve overall scalability to reflect an optimum number. Moreover, Friedrich also

teaches if a report from the managed method is processing too many arrivals, the quality-of-service ("QoS") expectations are changed. It can be interpreted as a new effective distribution when QoS expectations are changed for improvement.) (Col. 4, L. 48-53; and Col. 5, L. 31-36; and Col. 10, L. 55-58); and

Friedrich fails to teach a dynamic resource manager coupled to said application environment for determining a new effective distribution of computational resources throughout each of said plurality of components in response to said plurality of demand values in order to satisfy said functional objective. However, Friedrich teaches if a report from the managed method is processing too many arrivals, the quality-of-service ("QoS") expectations are changed (Col. 10, L. 55-58); and an optimization techniques minimize the required processing and network utilization overhead and improve overall scalability to reflect optimum number (Col. 5, L. 31-36); such suggestion would motivate one ordinary skilled in the art to seek a practical and effective way of doing so. Zinky teaches allocation of system resources to changing resource availability whenever the system detects a transition in order to satisfy the QoS. It can be interpreted as allocating resources to reflect a new effective distribution (see Zinky, Col. 6, L. 26-35).

Thus, it would have been obvious to one of ordinary skill in the art the time the invention was made to incorporated allocating resources to detect a transition, as suggested by Zinky, in a system and method for continuously measuring quality of service in a federated application environment of Friedrich, in order to determine

optimum number of computational resources and satisfy QoS provided by a distributed network having at least one object.

22. Claim 32 has similar limitations as claim 8, but in system form rather than method form. Therefore, the supporting rationale of the rejection to claim 8 applies equally as well to claim 32.

23. Regarding claim 33, Friedrich-Zinky discloses the invention substantially as claimed. Friedrich teaches the communication network as described in Claim 31, further comprising:

a prediction model for predicting a plurality of response time metrics for said plurality of components based on said plurality of demand values (Col. 9, L. 5-10); and

a mathematical model for modeling said plurality components in response to said plurality of response time metrics for determining said new effective distribution of computational resources(Col. 11, L. 4-31).

24. Regarding claim 34, Friedrich-Zinky discloses the invention substantially as claimed. Zinky teaches the communication network as described in Claim 31, further comprising:

a plurality of component managers, one for each of said plurality of components, for managing the modifying of computational resources in said plurality of components in response to notices from said dynamic resource manager. Zinky fails

to teach removing and adding as forms of modifying. Changing resources availability can be interpreted as removing or adding resources when the value exceed or falls below the "Normal" level or QoS. In addition, a request will be sent to a client application component from the central resource utilization controller. The client application can also be interpreted as a component manager of other components (Col. 6, L. 26-35; and Col. 9, L. 34-46).

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to add and remove resources availability, as suggested by Zinky, in a system and method for continuously measuring quality of service in a federated application environment of Friedrich, in order to give the client application an opportunity to change its operating behavior in accordance with the improved QoS.

25. Regarding claim 35, Friedrich-Zinky discloses the invention substantially as claimed. Zinky teaches the communication network as described in Claim 31, wherein said plurality of components comprise a local area network (LAN) (Col. 2, L. 3-9).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MINH-CHAU N. NGUYEN whose telephone number is (571) 272-4242. The examiner can normally be reached on Monday-Friday from 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JACK B. HARVEY can be reached on (571) 272-3896. The fax phone

number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JACK B. HARVEY
SUPERVISORY PATENT EXAMINER

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